

# National Infrastructure Advisory Council (NIAC)

## NIAC Pandemic Working Group

Final Report and Recommendations  
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## Requests from DHS & HHS Secretaries

### Six Specific Pandemic Requests

1. Identify and define critical services to be maintained in a pandemic.
2. Establish criteria and principles for critical service prioritization.
3. Define critical services priority.
4. Identify critical employee groups in each priority critical service.
5. Build a structure for communication and dissemination of resources.
6. Identify principles for effective implementation by DHS and HHS.

## Assumptions

- ❑ Susceptibility to pandemic influenza virus will be universal.
- ❑ The clinical disease attack rate will be 30% in the overall population during the pandemic. Among working adults, an average of 20% will become ill from the pandemic influenza.
- ❑ Absenteeism may be as high as 40% during peak pandemic periods.
- ❑ Some will become sick from the pandemic influenza but not develop clinically significant symptoms. These persons can transmit pandemic influenza and develop immunity.
- ❑ Multiple waves of illness are expected with each wave expected to last 2-3 months.
- ❑ Each wave during its peak will adversely impact infected communities for 6-8 weeks.
- ❑ Effectively half of all infected will seek medical care.

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## Identifying Critical Goods and Services and Establishing Prioritization Criteria

### *Critical Goods and Services Identified*

- ❑ Essential elements of ***national security and homeland security***
- ❑ Components of systems, assets, and industries upon which ***our economy depends***
- ❑ Components of systems, assets, and industries upon which ***public health depends***
- ❑ Fundamental to the 85% of the critical infrastructure owned and operated by the private sector
- ❑ Further defined by high rates of inter-dependency among critical infrastructure or single points of failure

### *Criteria and Principles for Critical Service Prioritization Established*

- ❑ **Critical goods/services required to *maintain national or homeland security***
  - For example: water, energy, food, banking & financial services, chemical, healthcare, Fire/EMS, communications, transportation, law enforcement, etc.
- ❑ **Critical goods/services to *ensure economic survival***
  - For example: banking & financial services, communications, IT, transportation, electricity
- ❑ **Critical goods/services to *maintain public health and welfare***
  - For example: water, energy, food and agriculture, healthcare, Fire/EMS, law enforcement, etc.
- ❑ **Critical goods/services with *significant number of inter-dependencies***
  - For example: water, electricity, food and agriculture, etc.

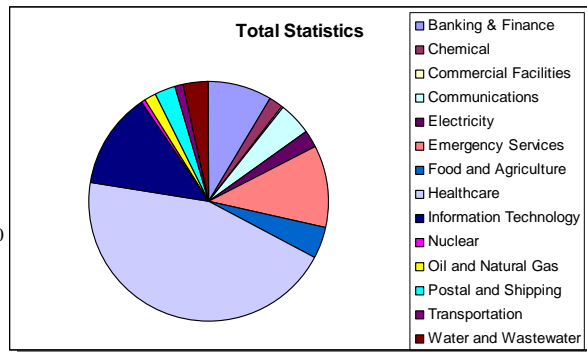
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## Identifying Critical Employee Groups Sector Detail: All Sectors, All Tiers

### Critical Employees: Tiers 1 -3

Banking & Finance: 1,562,000  
 Chemical: 322,618  
 Commercial Facilities: 84,000  
 Communications: 796,194  
 Electricity: 375,000  
 Emergency Services: 1,997,583  
 Food and Agriculture: 750,000  
 Healthcare: 6,999,725  
 Information Technology: 2,359,800  
 Nuclear: 86,000  
 Oil and Natural Gas: 328,600  
 Postal and Shipping: 467,744  
 Transportation: 198,387  
 Water and Wastewater: 608,000

**TOTAL: 16,935,651**



#### Notes:

- Numbers include Tier 1, Tier 2, and Tier 3 "essential" employees.
- State and local government numbers removed from gross and priority workforce numbers.

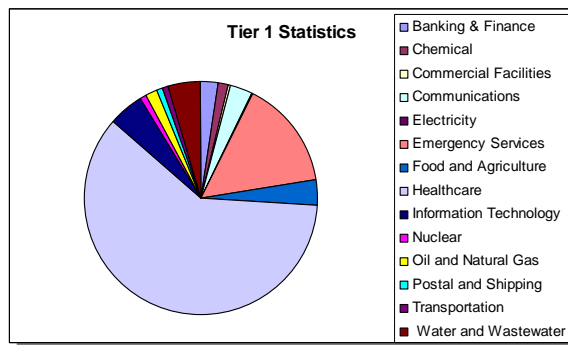
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## Identifying Critical Employee Groups: All Sectors, Tier 1 Only

### Employees: Tier 1 Only

Banking & Finance: 349,500  
 Chemical: 161,309  
 Commercial Facilities: 42,000  
 Communications: 396,097  
 Electricity: 50,000  
 Emergency Services: 1,997,583  
 Food and Agriculture: 500,000  
 Healthcare: 6,999,725  
 Information Technology: 692,800  
 Nuclear: 86,000  
 Oil and Natural Gas: 223,934  
 Postal and Shipping: 115,344  
 Transportation: 100,185  
 Water and Wastewater: 608,000

**TOTAL: 12,322,477**



#### Notes:

- Numbers include Tier 1 "essential" employees only.
- State and local government numbers removed from gross and priority workforce numbers.

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## NIAC Numbers: A Closer Look

- ❑ For good reason, the high percentage of Tier 1 Critical Workers identified from the Healthcare (HC) and Emergency Services (ES) sectors skews the overall data.
  - **NIAC's Tier 1 represents 14.5% of the entire 85 million U.S. CI workforce**, and only 4.8% for all sectors other than HC and ES.
  - When all tiers are included, the NIAC figure represents 19.9% of the CI workforce and 11.4% excluding the HC and ES sectors.
  - The total for all critical workers in all CI/KR sectors, including HC and ES, **equals only 0.5% of the total U.S. population.**
- ❑ In 2005, the Advisory Committee on Immunization Practices (ACIP) and the National Vaccine Advisory Committee (NVAC) provided prioritization recommendations, which HHS detailed in its Pandemic Plan.
  - NVAC/ACIP identified 17,034,000 CI/KR workers in Tier 1 (all in HC) and Tier 2.
  - The HHS Plan **did not** include several key CI/KR sectors, including **Banking & Finance, Chemical, Commercial Facilities, Food & Agriculture, and Postal & Shipping.**
  - Adjusting NIAC's figures to reflect only sectors included in the HHS studies reveals the **NIAC Tier 1 is 39.5% less than the total allotment of workers in the HHS plan.**

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## Recommendations

### Building a Structure for Communication and Dissemination of Resources

#### Communications

- ❑ Pre-define, to the greatest extent possible, a consistent pandemic communications plan covering the entire pandemic episode; tailor public communications to specific target audiences.
- ❑ Develop and pre-position, to the greatest extent possible, public communications in all distribution channels, including radio, television, telephone, print, and online media.
- ❑ Engage the private sector to augment the distribution of public communications to the critical workforce; rehearse communication.
- ❑ Refine public communications plans, processes, and success metrics through series of response exercises.

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## Recommendations

### Building a Structure for Communication and Dissemination of Resources

#### Dissemination

- ❑ Continue developing a clearly defined vaccine/anti-viral distribution strategy.
  - Consider alternative distribution strategies and guidance that allows the private sector to distribute vaccine and anti-viral medications to in-scope critical workforce.
- ❑ Clearly define response and containment roles and responsibilities.
  - Better define response timelines and milestones.
- ❑ Continue to educate all stakeholders on plans, process, and priorities.
- ❑ Develop mechanism to clearly identify priority workforce groups.
- ❑ Engage appropriate resources to ensure adherence to distribution strategy and the economical use of limited vaccine and anti-viral resources.
  - Identify, collect and report success metrics.

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## Recommendations

### Identifying Principles for Effective Implementation by DHS and HHS

#### Pillar #1: Preparedness and Communication

- ❑ Clearly align preparedness and response plans, communications, exercises, investments, and support activities around sustaining critical workforce during pandemic influenza event.
  - Continue data gathering, analysis, reporting, and open review.
  - More clearly define roles and responsibilities across all stakeholders in both the public and private sectors.
  - Continue to develop and refine preparedness and response plans.
  - Continue to engage private sector in public sector planning and responses exercises.

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## Recommendations

### Identifying Principles for Effective Implementation by DHS and HHS

#### Pillar #2: Surveillance and Detection

- ❑ Better engage key elements of the private sector in proactive surveillance and monitoring activities, including:
  - Extend surveillance to include occupational health professionals;
  - Engage international components of US corporations in global bio-data collection efforts;
  - Supplement surveillance technology investments, acquisition, monitoring and response, to increase threat visibility and geographic coverage; and
  - Engage non-traditional data acquisition and management resources within the commercial workforce in surveillance, collection, and analysis.

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## Recommendations

### Identifying Principles for Effective Implementation by DHS and HHS

#### Pillar #3: Response and Containment

- ❑ Develop clearly-defined vaccine and anti-viral distribution strategy to ensure deployment as planned.
  - Consider alternative distribution methods that engage private sector directly distribute to in-scope critical workforce.
- ❑ Clearly define response and containment roles and responsibilities.
  - Better define response timelines and milestones.
- ❑ Educate all stakeholders on plans, process, and priorities.
- ❑ Develop mechanism to clearly identify priority workforce groups.
- ❑ Engage appropriate resources to ensure adherence to distribution strategy and the economical use of limited vaccine and anti-viral resources.
  - Identify, collect and report success metrics.

NOTE: Recommendations parallel Question #5, part-2, "Dissemination of Resources."

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## Additional Items, Possible Further Study

- ❑ Study impact of **foreign workers** on Critical Infrastructure (CI) operations.
- ❑ Explore the government's willingness to **underwrite key components of financial infrastructure** and provide **temporary regulatory relief**.
- ❑ Address **competing prioritization strategies** (e.g., key metro areas vs. CI, and at-risk populations vs. critical good/service producers).
- ❑ Study the impact of **contract resources and FTEs** on CI.
- ❑ Continue to investigate **family member care, containment impact** on the CI worker, and best use of **limited vaccine/anti-viral supplies**.
- ❑ Review **possible double-counted workers** (e.g., public/private/volunteer EMS; non-practicing MDs; and Federal/State/local and contract law enforcement).
- ❑ Study impact from **potential containment strategies** (e.g., border closures).

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## Final Thoughts

- ❑ **Existing Federal and State plan priorities include:**
  - Vaccine and anti-viral manufacturers
  - High-risk persons
  - Public health emergency workers
  - Key government leaders
  - Young and elderly individuals
- ❑ **NIAC prioritization focus differs from existing plans. Focus on:**
  - Maintaining national/homeland security, economic livelihood, and public health and welfare; and
  - Identifying and addressing critical inter-dependencies and single points of failure.
- ❑ **Suggest that resolution method be developed to determine:**
  - Federal/state prioritization method priority vs. NIAC recommended priority
  - Distribution methods: direct to private sector vs. direct to public sector
  - Further refinement of critical worker definitions, priorities, and numbers, including a possible forum to identify, quantify, and qualify ultimate prioritization and distribution methods.

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